

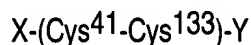
## Amendment

This listing of claims will replace all prior versions, and listings, of claims in the application:

In the Claims:

30. **(Currently Amended)** A method for affecting the survival or function of neurons comprising administering a pharmaceutical composition comprising:

(a) a truncated glial cell line-derived neurotrophic factor (GDNF) protein product consisting of an amino acid sequence



wherein

(Cys<sup>41</sup>-Cys<sup>133</sup>) consists of Cys<sup>41</sup> through Cys<sup>133</sup> of SEQ ID NO:2;

Y represents the carboxy terminal group of Cys<sup>133</sup>, a carboxy-terminus amino acid residue of Ile<sup>134</sup>, or a substituted amino acid residue, and

X represents a methionylated or nonmethionylated amine group of Cys<sup>41</sup> or amino-terminus amino acid residue(s) selected from the group:

G  
RG  
NRG  
KNRG (SEQ ID NO:3)  
GKNRG (SEQ ID NO:4)  
RGKNRG (SEQ ID NO:5)  
QRGKNRG (SEQ ID NO:6)  
GQRGKNRG (SEQ ID NO:7)  
RGQRGKNRG (SEQ ID NO:8)  
RRGQRGKNRG (SEQ ID NO:9)  
G RRGQRGKNRG (SEQ ID NO:10)  
KG RRGQRGKNRG (SEQ ID NO:11)  
GKG RRGQRGKNRG (SEQ ID NO:12)  
RGKG RRGQRGKNRG (SEQ ID NO:13)

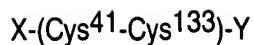
SRGKG RRGQRGKNRG (SEQ ID NO:14)  
 NSRGKG RRGQRGKNRG (SEQ ID NO:15)  
 ENSRGKG RRGQRGKNRG (SEQ ID NO:16)  
 PENSRGKG RRGQRGKNRG (SEQ ID NO:17)  
SPENSRGKG RRGQRGKNRG (SEQ ID NO:51)  
 NPENSRGKG RRGQRGKNRG (SEQ ID NO:18)  
 ANPENSRGKG RRGQRGKNRG (SEQ ID NO:19)  
 A ANPENSRGKG RRGQRGKNRG (SEQ ID NO:20)  
 AA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:21)  
 AAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:22)  
 QAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:23)  
 RQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:24)  
~~NRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:25)~~  
~~RNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:26)~~  
~~ERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:27)~~  
~~RERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:28)~~  
~~RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:29)~~  
~~P RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:30)~~  
~~LP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:31)~~  
~~VLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:32)~~  
~~AVLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:33)~~  
~~MAVLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:34)~~  
~~QMAVLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:35)~~  
~~KQMAVLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:36)~~  
~~DKQMAVLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:37) and~~  
~~PDQMAVLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:38)~~

or a substitution or deletion variant of X, wherein said variant is in excess of 70% identical to an amino acid sequence of X as set forth above when four gaps in a length of 100 amino acids may be introduced to assist in that alignment, and

(b) a pharmaceutically acceptable vehicle.

45. **(Currently Amended)** A method for affecting the survival or function of neurons comprising administering a pharmaceutical composition comprising:

(a) a truncated glial cell line-derived neurotrophic factor (GDNF) protein product consisting of an amino acid sequence



wherein

(Cys<sup>41</sup>-Cys<sup>133</sup>) consists of Cys<sup>41</sup> through Cys<sup>133</sup> of SEQ ID NO:2;

Y represents the carboxy terminal group of Cys<sup>133</sup>, a carboxy-terminus amino acid residue of Ile<sup>134</sup>, or a substituted amino acid residue, and

X represents a methionylated or nonmethionylated amine group of Cys<sup>41</sup> or amino-terminus amino acid residue(s) selected from the group:

C<sup>2</sup>  
cont.

G

RG

NRG

KNRG (SEQ ID NO:3)

GKNRG (SEQ ID NO:4)

RGKNRG (SEQ ID NO:5)

QRGKNRG (SEQ ID NO:6)

GQRGKNRG (SEQ ID NO:7)

RGQRGKNRG (SEQ ID NO:8)

RRGQRGKNRG (SEQ ID NO:9)

G RRGQRGKNRG (SEQ ID NO:10)

KG RRGQRGKNRG (SEQ ID NO:11)

GKG RRGQRGKNRG (SEQ ID NO:12)

RGKG RRGQRGKNRG (SEQ ID NO:13)

SRGKG RRGQRGKNRG (SEQ ID NO:14)

NSRGKG RRGQRGKNRG (SEQ ID NO:15)

ENSRGKG RRGQRGKNRG (SEQ ID NO:16)

PENSRGKG RRGQRGKNRG (SEQ ID NO:17)

SPENSRGKG RRGQRGKNRG (SEQ ID NO:51)

NPENSRGKG RRGQRGKNRG (SEQ ID NO:18)

ANPENSRGKG RRGQRGKNRG (SEQ ID NO:19)

A ANPENSRGKG RRGQRGKNRG (SEQ ID NO:20)

AA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:21)

AAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:22)

QAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:23)

RQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:24); and

~~NRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:25)~~

~~— RNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:26)~~  
~~— ERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:27)~~  
~~— RERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:28)~~  
~~— RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:29)~~  
~~— P RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:30)~~  
~~— LP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:31)~~  
~~— VLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:32)~~  
~~— AVLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:33)~~  
~~— MAVLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:34)~~  
~~— QMAVLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:35)~~  
~~— KQMAVLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:36)~~  
~~— DKQMAVLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:37) and~~  
~~— PDKQMAVLP RRERNRQAAA ANPENSRGKG RRGQRGKNRG (SEQ ID NO:38); and~~

(b) a pharmaceutically acceptable vehicle.

46. **(Currently Amended)** A method according to Claim 30 or 45 wherein X is selected from the group consisting of SEQ ID NO: 3, 7, 8, 14, 17, 24, 51 and 18.

47. **(Previously Added)** A method according to Claim 30 or 45, wherein X is G, RG or NRG.

48. **(Previously Added)** A method according to Claim 30 or 45, wherein said GDNF protein product has the amino acid sequence of SEQ ID NO:42.

49. **(Withdrawn)**

50. **(Withdrawn)**